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(12) **United States Patent**  
**Langford**(10) **Patent No.:** **US 7,045,008 B2**(45) **Date of Patent:** **May 16, 2006**(54) **LOW DUST WALL REPAIR COMPOUND**(75) Inventor: **Nathaniel P. Langford**, Somerset, WI  
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U.S.C. 154(b) by 0 days.(21) Appl. No.: **10/664,142**(22) Filed: **Sep. 17, 2003**(65) **Prior Publication Data**

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6,358,309.(51) **Int. Cl.****C04B 24/08** (2006.01)**C04B 26/02** (2006.01)**C04B 28/14** (2006.01)**C04B 103/00** (2006.01)**C04B 111/72** (2006.01)(52) **U.S. Cl.** ..... **106/504**; 106/661; 106/665;  
106/773; 106/778; 106/822; 252/88.1; 524/4;  
524/5(58) **Field of Classification Search** ..... 252/88.1;  
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See application file for complete search history.

(56) **References Cited****U.S. PATENT DOCUMENTS**

3,984,269 A 10/1976 Schneller et al.  
 4,038,443 A 7/1977 Jacoby  
 4,136,050 A 1/1979 Brehm  
 4,171,276 A 10/1979 Brehm  
 4,238,239 A 12/1980 Brown  
 4,269,721 A 5/1981 Mueller et al.  
 4,286,995 A \* 9/1981 Smith et al. .... 106/778  
 4,294,622 A 10/1981 Brown  
 4,316,811 A 2/1982 Burns et al.  
 4,369,121 A 1/1983 Callahan et al.  
 4,370,167 A 1/1983 Mudd  
 4,380,459 A 4/1983 Netting  
 4,391,647 A 7/1983 Deer et al.  
 4,400,220 A 8/1983 Cole, Jr.  
 4,417,992 A 11/1983 Bhattacharyya et al.  
 4,425,252 A 1/1984 Cargle et al.  
 4,428,984 A 1/1984 Shimizu et al.  
 4,451,605 A 5/1984 Theodore  
 4,454,267 A \* 6/1984 Williams ..... 524/43

4,469,612 A 9/1984 Fenton  
 4,487,615 A 12/1984 Taylor et al.  
 4,549,966 A 10/1985 Beall  
 4,551,261 A 11/1985 Salihar  
 4,551,401 A 11/1985 Wilson  
 4,561,905 A 12/1985 Kittle  
 4,571,116 A 2/1986 Patil et al.  
 4,650,598 A 3/1987 Roberts et al.  
 4,686,253 A \* 8/1987 Struss et al. .... 524/44  
 4,737,305 A 4/1988 Dohner  
 4,780,143 A 10/1988 Roe  
 4,780,233 A 10/1988 Roe  
 4,782,632 A 11/1988 Matechuk  
 4,801,635 A 1/1989 Zinkan et al.  
 4,836,945 A 6/1989 Kestner  
 4,897,218 A 1/1990 Roe  
 4,955,748 A 9/1990 Krumholz  
 4,960,532 A 10/1990 Kremer  
 4,971,720 A 11/1990 Roe  
 4,972,013 A 11/1990 Koltisko, Jr. et al.  
 4,981,398 A 1/1991 Field et al.  
 5,007,206 A 4/1991 Paterson  
 5,102,462 A 4/1992 Podlas  
 5,131,198 A 7/1992 Ritchie et al.  
 5,143,645 A 9/1992 Roe  
 5,192,337 A 3/1993 Wajer et al.  
 5,194,174 A 3/1993 Roe et al.  
 5,246,775 A 9/1993 Loscuito  
 5,256,444 A 10/1993 Roe  
 5,277,712 A 1/1994 McInnis  
 5,336,318 A 8/1994 Attard et al.  
 5,362,320 A 11/1994 Whatcott  
 5,382,287 A 1/1995 Podlas  
 5,399,282 A 3/1995 Hansen et al.  
 5,412,007 A 5/1995 Hendrix et al.  
 5,439,608 A 8/1995 Kondrats

(Continued)

**FOREIGN PATENT DOCUMENTS**

CA 111989 2/1982

(Continued)

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A wall repair compound useful for filling and repairing cracks, holes, and other imperfections in a wall surface includes a conventional filler material, a conventional binder material, and a dust reducing additive which reduces the quantity of airborne dust particles generated when sanding the hardened joint compound. Airborne dust reducing additives include oils, surfactants, solvents, waxes, and other petroleum derivatives. The additive can be added to conventional ready-mixed joint compounds and to setting type joint compounds. A method of reducing the quantity of airborne dust generated when sanding a fully hardened joint compound includes mixing a sufficient quantity of the dust reducing additive with the joint compound prior to when the joint compound has been applied to the wall.

**20 Claims, 1 Drawing Sheet**